

Side two of Tape 189. Proceedings of an undated Uintah County Historical Society meeting. George Long is the speaker.  
Transcribed by Janet Taylor, May 2001.

### **Phosphate Mining**

George Long (George): Craig, Moffatt Historical Society. I'm trying to get the coke ovens up at Douglas Mountain, up near where Esther and Duward Campbell used to live. Esther told me, and also I got a letter from them, that they are making progress on this line. They are going to get the coke ovens fenced before those Ute ovens. If there's anyone here that hasn't seen them, it's well worth your while to go do it. Besides, it's a lovely trip. The old Bromide mine sits up on the point some distance away, where they mined the copper ore. But the coking ovens are placed (which at one time belonged to Queen Anne Bassett), and ? and her husband lived there for a number of years. The Brown's Park people are enthused about this from what Esther has told me, which is very good. This is a very significant historical landmark for this area, for the Western Colorado area, and it's good to know that it will be preserved.

I just happened to be going through some of my clippings and I came on to this one. It will be ten years next June that this chapter was formed. And the time sure flies. It doesn't seem that long, but several of the people here like William Wallis and Bry Stringham, Iva Gray and Calvin Jorgensen are no longer with us. They all played very important parts in getting this chapter started. Iva Gray sort of was the forerunner of it. I just thought it was interesting, and I just thought if any of you want to look at it later it will be fine.

I'm sure on the history of the phosphate, as we know it here in Vernal, that there are people better qualified than I to give it. But it seems that none of them are either here in Vernal at this time, or else none of them particularly care about giving the background of it. So, when Wanda asked me to, I told her yes, I would be glad to do so, that I would do the best I can on it. I've been associated with the Vernal phosphate operation ever since its beginning. The San Francisco Chemical Company started it in operation.

Now, the phosphate goes back a long ways. The phosphate bed itself is probably over two hundred million years old. In other words, the area was at one time covered by a great sea, as the geologists call it, the Phosphoria Sea. It contained a lot of plant life, animal life, that are in the sea, of fish, snails, and this sort of thing. Down through the years as this sea evaporated, the remains of this plant life decayed and became compressed to such an extent that it formed the phosphate bed that's there now, some nearly twenty feet thick. I don't know how many miles of it. They say they hit it out here even with the drilling rigs. There are outcrops up here on the face of Brush Creek Mountain. From what stuff the San Francisco Chemical Company had, about seven miles through it, north and south, about six or seven miles, and I believe around twelve miles across.

Now, this phosphate discovery has been attributed to a fellow named Harry Ratliff. Several of you here knew Harry, and Paul, I know, was well associated with him. A man with a lot of drive. A very intellectual man for his times. A man of determination. He just wouldn't give up.

Some time ago Frank Johnson called me on the phone. It was along about last February. He said, "George, I have a box of items here that belonged to John Glenn." He said, "I don't know what to do with them. Lots of pictures, lots of old papers, affidavits and so on."

Now, those of you that knew John Glenn knew that he was a man who did a lot of survey work and a lot of early abstract work. He built your courthouse and a lot of the early abstracts were compiled and done by John Glenn. He was a very ambitious man. So, I went and got this box of stuff from Frank, and as I went through it, I found out John Glenn was involved with this phosphate before Harry Ratliff ever came to this country.

Glenn and Frank Goodman, who had a place out on Little Brush Creek, had taken phosphate samples as early as 1911 and sent them out somewhere – Salt Lake City – and had them analyzed and they sent back the results of these tests, informing them that it was phosphate of such-and-such a grade and said, (and I've got the papers) and it said, "Someday if a railroad comes to your area this could be a very important thing." But back then there weren't even trucks. So the only railroad was the Little Uintah, which was miles and miles south of here. Evidently Glenn and Frank Goodman, who owned the ranch there at the top of Little Brush Creek, didn't do anything about it beyond these inquiries.

Frank Goodman lived at the Little Brush Creek Ranch, which was at that time an important stop on the road, which was probably the most important road outside of the ? road out of the Basin and up over Diamond Mountain to Brown's Park. People stopped there. It was an overnight stop place.

Anyway they didn't do anything about it, and as a consequence, why, Harry Ratliff, who was working for the Moffatt Railroad, came into the country looking for a railroad route from Steamboat. The Moffatt Road was in Steamboat at that time, and they were laying a route to Craig through to Salt Lake. So Ratliff was over in that Brush Creek country and he chanced onto the Goodmans, stayed overnight at their place, and, seeing the specimens of rock that they had, he inquired about it and then he went doing some prospecting of his own and found out this thing covered the whole face of the mountain.

He had been to Montpelier, Idaho, where one of the richest western field phosphate mines had been in operation and was for many years the — Mine of Montpelier, the old San Francisco Chemical Company, and so Ratliff knew phosphate. He recognized it right off and he knew that it could be an important thing here if the railroad would come through, so he started claiming it up. As a result, in 1915 he got it claimed up just days ahead of the government [agent] who was trying to get this put in a Federal Reserve setup under the federal government, something like the Forest Service or BLM that we have now, where you can't go out and claim it up. Well, Ratliff beat them. He held this in good standing for over forty years, until he came in contact with a man, Scotty King, who ran the San Francisco Chemical Company, and from there the phosphate grew as we know it now. Glenn, evidently, was on the inside track four years ahead of Harry, but he didn't pursue it and neither did Frank Goodman, the rancher.

Phosphate has been an important item here since its inception in 1961 when it was put on-stream. Today it has a big payroll, pays lots of taxes. Probably the first big taxpayer in this county was the Dyer Mine and as the Dyer ran out, then the Gilsonite, and the Gilsonite has remained so down through the years and, of course, the oil, intermittently, in between. And the phosphate now, has been and is one of the biggest items in this here county. It plays an important part of our county, the tax money that our county receives.

Harry Ratliff, I think, down through the years, was the only man that figured this would probably ever come to being. Almost everyone else figured, well, it's never going to be anything more than a place to go get cedar wood or cedar posts, or railings for cattle. Harry didn't have the money to keep this thing going so he got involved with Humphrey's Investment Company out of Denver. They furnished the money to get it advanced, do the assessment work, and this sort of thing down through the years.

But they were wanting to get rid of him. So about 1950, along thereabouts, a company by the name of Monsanto came in. Monsanto Chemical. They got an option on this ground, on a portion of it. They didn't take all of it. They took an option on a portion of the ground up here. I think they had it for about five years. They never did anything with it. They ran some tests and one thing and another, but when Monsanto dropped their option, San Francisco Chemical Company, under the leadership of Scotty King, took it up. They came down here and Scotty's son, Duncan L. King Jr., started doing some mining right off.

They drove an underground drift which they called the Neverswept, and if any of you are familiar with it you know what I'm talking about and where. They mined that and sent the samples, or a lot of the ore, to Montpelier, and they also took another several other tons of ore further up the canyon a ways. You can see it from the road as you drive up, just before you get to the part we call "The Sinks."

With the help of the Colorado School of Mines, they ran tests on this, and they took this ore. I think there were Grant Southam, and his brother-in-law, Edwin Massey, and them, and they hauled that ore to L---, Wyoming, just outside of Montpelier, a few miles south, and they ran tests on it there to see if it would be feasible to "float" this ore. Flotation-process.

It turned out that they were successful. Mr. King took on quite a gamble. Practically everybody said it was a bad move, and that he would regret it. It was a foolish move. No railroad, the transportation will eat you up, which was a big expense. But Mr. King wasn't to be discouraged and he went ahead and built the plant. In 1960 the plant was constructed, in 1961, in January, it was put on-stream. Twenty-five tons an hour, back then, which was just a little over two hundred thousand tons a year. A few years later it was increased to double this rate.

But this man deserved the credit for the phosphate operation as we have it here, because even Monsanto, as big a company as they were, they turned thumbs down on it. Mr. King gambled on it and won. The gamble paid off. I know of no man—I've met practically all of them in the phosphate business up until two years ago—I know of no man that knew phosphate and had the foresight and knowledge that Mr. King did. He was certainly a man who knew what he was doing and you wouldn't be around him very long until you felt this.

San Francisco Chemical Company, in acquiring the Brush Creek property, had to sell so much of their stock, so they sold, I think—now I could be wrong on this—they sold about fifty percent of their holdings through Stouffer Chemical to come up with the money to purchase Vernal and to build the plant over here. Later on, Stouffer bought them out. San Francisco Chemical was a London-based firm. Mountain Copper and their main office, of course, was in London. But they were a good company; they did a lot for this valley, and I for one am real thankful that they took the steps that they did. Made a job for me for twenty-five years and I've never regretted it one bit. It made a job for a lot of local people.

Now, I might give myself a pat on the back: for ten years Duncan King allowed me, or had me, do most of the hiring over there. I hired every man that I possibly could, and women,

too; there are a few women starting to work there. I hired every one that I possibly could from this valley, because my feeling and Fred Riding's, who got to be the superintendent, our feeling was that those jobs belonged to the people that had their roots down here. Not for someone from Timbuktu. Later on I was told that that's not right, but that was my feeling and it still is. Anyway, a lot of local boys got their jobs over there and it turned out to be a good job. And they got the job because there were local people involved in it. The Kings felt that way, too. Even though they were from Idaho, Vernal is their second home and that was their feeling. We had some good people. I'm proud of them.

I have some pictures. After a while you can look at them over here. It shows the plant under construction by Western M- Construction Company in 1960, it shows the following year when it was on-stream, and you can see there the sagebrush and the cedars still prevailing around it. Then it shows it later on, after the additions were added. Another picture there shows in the winter time. Duncan King took that picture of when we were making a blast up in the mine. These are treasures of mine that I have from those days over there at the plant.

In 1968, sales were such that the plant closed down. Again, the big hold-back here was the transportation. It was too costly. To Foston. Now, if you could build a plant out to Foston where the railroad was, and that's the other side of Heber about fifteen miles, build a processing plant there, and it cost more to ship that ore from here to Foston, I think about a three-hundred mile round trip, than it did to mine it, process it, and all the rest of shipping combined. That distance from here to Foston was what ate us up.

Some of the local people, and one of them was Lee Sowards, bought and got us an over-weight permit. That way we were able to have over-weight trucks, which carry, I think it was, fifteen tons more than the ordinary trucks could carry prior to this. This was really an asset to us. If it hadn't been for that, we probably couldn't have kept operating. But through the work of men like Lee and Mr. King, they got this accomplished.

But in 1968 the plant shut down. Men were laid off, some of us went to Idaho, Montpelier, and to L— Wyoming, and worked there for a period of fifteen months. During that time Stouffer acquired the property and in June of 1969 we got word to reopen the Vernal plant. Duncan King sent Fred Riding and myself down to hire a crew and we hired as many of the guys that had got laid off that we could, and we started the plant back up. It's run continuously ever since. The Vernal phosphate, being so far from the railroad, created that problem of transportation. I'm sure it was in the mind of the Stouffer people, such a thing as a pipeline, but the expense was so tremendous, that Stouffer just never got into it.

In 1981, Chevron Resources bought Stouffer out and they immediately started work for an enlargement. Larger shovels, larger trucks, and a slurry line. The slurry line has been completed since then and the ore is shipped through it to a plant in Rock Springs, Wyoming. They mine considerably more than what they did under Stouffer or San Francisco Chemical Company. Hopefully, things will come about that there will be more men put to work. They did put more men to work, but they're having a layoff, I understand, in the near future. But hopefully things will pick up. This slack period that they're having now won't affect the operation to the extent that there would be a danger of shutting it down or reducing it to a point where people have to leave to find other work. That's what happened in 1968.

Anyway, as a result of this pipeline and the new method of mining and one thing and another, they've increased production over there three-fold. It's gotten to be a big thing. One of

the biggest phosphate producing operations in the world. Years ago, the Western phosphate wasn't considered all that attractive. There were a few places like the Waterloo, the mine at Montpelier, where the ore was so rich that all they had to do was dig it out of the ground. Maybe wash it a little bit or something. There was no flotation process or de-sliming process or anything like this that we have over here. So, it's just been the last few years, and this here was a pioneer deal, here. Because this type of an operation, with this type of phosphate is unheard-of before the San Francisco Chemical Company began it. Down in Florida they have phosphate that they scoop up with big drag lines, and that's all they do with it is wash it.

Question: What is the phosphate used for?

George: Well, it goes into plastics. Some of it goes into plastics. And they make an elemental phosphorus. Of course, that's fertilizer, too, only they spray it on. Things like that. But it's mostly just fertilizer. The operation here at Vernal, and by the way, this is the largest phosphate deposit in the western hemisphere. It may be the largest in the world. I don't know. They've found some in Australia and some other places that may be as large. I can't say, but I do know that in the western hemisphere it's the largest phosphate deposit.

Like I said, it laid dormant with only one man thinking that anything would ever come of it. And that was Harry Ratliff, and Harry died just before the plant got on-stream just over here. Back then, they were going to call the plant, and maybe they did, I think, Harry Ratliff # 1. Now, I doubt if you went up there and asked those people there, that there's hardly one of them even knows who Harry Ratliff was. You know, but back when it was first started they well knew him, because I've had Mary, when I was over there, Harry's wife, call up and a time or two you know, and see how things were going. She's still alive and still interested in it.

The phosphate as we know it over here is considered low-grade because it requires a lot more of beneficiation to it, to process it, to make it applicable to put on the ground than most other phosphates. It requires an awful lot of acid, sulfuric acid. And this is one reason that Chevron wanted it because they had these wells up around Evanston, and in Wyoming, that had lots of sulfur. So, any more, you've got to take care of the sulfur or sulfuric acid. You can't just go out and dump it like they may have done in earlier days, so they use it to process phosphate. And that's one reason that they built that big plant up in Wyoming, rather than here, because they had the acid up there. Plus, there's a railroad. Ship it up there through the pipeline. I've never been to the plant. I don't know anything about it. If there are any questions that any of you have?

Question: How many employees are up there now?

George: I don't know how many now. When I left there were about a hundred and fifty. But I don't know how many are there now; I have an idea that there are around two hundred or maybe a little over.

I've been gone now two years. I do know that starting out, we had something like forty or fifty people. We only had, as I remember, there were only five on the staff. Now they've got probably fifty on the staff. Back then, why, there was one guy in the office and that was Fred Riding, and I'd just like to say something in Fred's behalf. He went over there just a few weeks

before I did, in 1960. He was in the office, to do the office work. He worked his way up and became the superintendent of the operation, and he's done a good job. Then, after Chevron Resources bought it, then Fred transferred out to Bonanza where he is now.

We've had quite a few supervisors, but for the time that I was there, probably one aside from Mr. Scotty King, probably the one that had the most to do with it was his son, Duncan L. King. He went over and did the first mining over there. He mined out the test ore and then he was over the mine, down through the years, and then later became manager of the operation, both here and up in Wyoming. I worked with him for a good many years. Probably I was closer to him than what I was with his father. As I said, he was our manager here at this operation from about 1972, I believe, in that range of time, until shortly after Chevron bought it out. So he was manager for about ten years.

Phosphate, I don't think, was as important in years past, as it has been in the last few years. It used to be that people could summer-fallow ground. They could raise so much here and then let that go for a few years and go over here, but now, where there's more people and less ground, why, we've got to keep the ground productive. So, the demand for phosphate has come up. And the expense of it has, too. I think the Japanese have gone into northern Australia. They were mining a lot of phosphate there. There is a lot of phosphate mined in Morocco. As I mentioned, in the United States, in Florida and in Tennessee, and I think?. Here in the western part it's mostly Utah and Wyoming and Idaho, with Idaho probably having the richer type of phosphate.

Comment: One of my neighbors works out there, and he said that they lost a contract to a Canadian company.

George: I understand that the Canadian people at Carmichael, and we have visited with them for a long time, I understood that they were going to curtail that. What that will mean, they'll have to find other markets for it, elsewhere, probably here in the United States. So, competition again, is going to be an important factor. In other words, they are going to have to compete with the Florida markets. They had a contract with Carmichael where almost everything went to Carmichael. The big part of it. That was their gravy, you know. But now they're going to have to compete with the Florida and Tennessee markets. They are going to have to compete with J.R. Simplot, the Idaho manufacturer, so it could make it pretty tough. I don't know. Carmichael, I guess, hasn't got out of the business. It isn't that. They have established some mines of their own. They may find out, after so long, that this isn't too feasible of a thing, and then maybe they'll come back, and say, "Hey, we found out that we can't mine and process this stuff." That might happen. That's happened to some outfits.

Question: You said it was a "vein." Does that mean we'll ever run out of it?

George: Well, if you wanted to go deep enough you wouldn't. I don't think any of us here will see the day that they'll run out of it over here on the face of this mountain. Even with the quantities that they're moving now, and have done for the last two years, I don't think any of us will see the day that it's even mined out up there. There's phosphate to the west and to the east of this — holdings. There's phosphate over there on the rim of Diamond Mountain. There's

phosphate over on the rim of Diamond Mountain to the east, I think one of the Steels, U.S. Steel, I think, had an option or owned it or leased it or something. They bought the Mick Caldwell property and some other property over there, to get water. To get water rights. This is always a critical thing for any kind of mine operation, is water.

Then there was an outfit by the name of Archer that had phosphate holdings to the west on Taylor Mountain. But they're under such a high over-burden, there's so much over-burden on them, that there'd probably have to be underground mining. That is really a expenditure. It's really expensive, plus, hazardous. It's a critical type of an operation.

Now, San Francisco Chemical Company underground-mined up to a place called the Cherokee Mine out of Randolph, Utah. They had an underground mine there for years and years and years, and very rich ore. But eventually things got to where because of the expense, danger, and one thing and another, they shut it down. The ore's still there. That's what they'd have to do here. I don't think, even with methods of strip-mining, I don't think they could do it, because there would be such a quantity of over-burden that it just wouldn't be feasible. I don't know of any other underground mine, only that one they had up there at that Cherokee Mine. They mined that for a long, long while. I don't think we'll see the day, any of us here, that we'll get mined out up there on Brush Creek at the rate they're going, and they're going at a tremendous rate.

Question: What about the ruined earth after the mining is done?

George: They're doing it now. They reclaimed that. There's quite a reclamation project going on. These mined-out areas are reclaimed, the reclamation work is done, the ground is terraced and topsoil, if they can get any, is put back, grass is sowed on it, even seedlings are set out.

Now, I don't know. I just came from Craig the other day, and I see up there where ? Coal Company, they're doing the same thing. There's one strip through there, and, man, I'll tell you, it looked like grain that had come up on that. I think it was. It was really something. But they have a little different situation than what they've got over here. A lot better soil and not so many rocks, and plus the fact that it's in an area where they get more rainfall than what we do. Of course, we've had quite a lot this summer.

Comment: That is a concern.

George: Yes. They've had to do that even though the ground is privately owned. They still have to reclaim that and put it back. Now, this is one of the problems that they had in Idaho, where a lot of the ground is under the Forest Service. You get dealing with the Forest Service and it's really something. I mean, those guys, well, if anyone here works at the Forest Service I apologize, but nonetheless, it's a fact that they seem like they fight you tooth and nail. Hey, this is something that's to the benefit of all of us: putting men to work. Yet, they'll try to keep it shut down. To a certain extent, they do.

Question: Is the phosphate mostly used in the United States?

George: Well, Japan uses a lot. I have an idea that all the market for this, yes, is in the United States and Canada. I think most of it went into Canada. Now, the plant that Stouffer ran for years

out to the Great Salt Lake, called... Oh, what was the name of the little old town out there? It was out by Kennecott.

Comment: Magna.?

George: Well, it was just the other side of Magna. But anyway, why, they had a plant there and it ran for years and years, while a lot of the phosphate that they made – Garfield – that's the name – a lot of the phosphate that they made was sold locally, here in Utah and in surrounding areas. In fact, I've purchased some a few times. But Chevron, they shut that plant down. And after they shut down it and the Foston plant, and put the plant into Wyoming, a big part of it went, I think, to Canada, and I think they did, I don't know, I think they did process some of it there for a little while, I'm not sure.

I haven't been too much in touch with the operation since I retired. In fact, I've never been back over there. I was going over the day they had the big homecoming or the big celebration, and I was working for a fellow named Rulon Lind, in the honeybees, and it came up quite a storm and he said we'd better go up on Diamond Mountain and get our bees. So I went up there and I never got home in time to go. But I guess they've really got a magnificent plant and operation over there. I've been invited to go over, but I just never have gotten around to it. I'll have to one of these days and see just what's taken place there since I left. I've been gone two years.

Comment: I've been connected with the Historical Society for about two years and gone on most of their trips. I don't believe we've gone up there yet. I was just wondering why they haven't gone there, and nobody seems to know.

George: Well, what I would say to that is to get with your tour guides and Wanda and Joy, and maybe they could work out something.

Comment: We have talked about it for five years. We're still talking about it.

George: Well, we used to have trips up there. I don't know if the Historical Society ever went, but I remember when Alice White and a group came over there, and another time Charlie Lewis, I believe he was with the Historical Society, or with the Senior Citizen's group, because we were afraid some of them were going to, they had high heels on, and we were afraid they were going to get them caught in that corrugated floor up there and trip and fall. They came over one time. But, yes, they'll give you a tour guide and I think it would be real good.

Comment: A week or ten days ago someone asked if we could bring a group of Scouts up there from our ward, and it wasn't over three days and we were up there. We took our Webelos Scouts up there. I think maybe we should be cautioned that when you go up the step there...

George: Well, you would have to go through security there and with whoever is in charge. Somebody would accompany you, because of the safety aspect of it. Someone would.



Comment: The guide showed us how the fertilizer is used on farms and so on. The plant is all computerized now.

George: It's been an asset to us here, not only for those that work there, but to the businesses and to the tax base.

Comment: We'll make plans for anyone who can take a carload and drive up there.

George: The weather's all right. Don't do like one group did that came out there. They had this bus and they had come from down around St. George or somewhere, but the bus was having a hard enough time, I guess. After it got up in these mountains, they got over on the phosphate and they drove up on what we call the foot-wall—that's the phosphate that's been mined out. And the foot-wall, as we call it, is a Weber formation of about as hard a rock as you can find. And so they were going to go up and look down into the Gorge, and look down off into the Big Brush Creek Gorge in several places. I forget who was with them. There was one of the supervisors with them, and they started up there and the old outfit tired out. Well, it was about a fifteen or twenty percent grade. She started to back down the old hill, you know, and for a while they thought maybe they were going to end up down in the Gorge somewhere. Finally got it stopped, but now you don't have as much of that. They watch it. They have means to take you or whatever, but back then we didn't. We just let them take their own bus up there. It was just lucky it didn't roll over or get away from them.

Comment: Remember when we used to have the old wooden steps?

George: Yes, it's all gone. I'm glad you brought that up. I'll get to these others in just a minute. As a kid I spent a lot of time up there on the phosphate. Various families lived there, on the old Ruple ranch. One that lived there for a long time was Ned ? . There was Cap Atwood lived there for some time, old Doc Meadows lived there once. But at any rate, we went up there and we'd go up and we'd have a picnic. This time of the year you can usually go in at the mouth of the Gorge, down what we called the Narrows, and maybe get in water waist-deep. And go on up, but at an earlier time in the summer you can't do that. It would swim a horse.

END OF TAPE

(Side one of this tape includes information about Josie Bassett Morris.